Release notes for ENDF/B Development e-090_Th_000 evaluation

October 13, 2016

- `fudge-4.0` Warnings:

  1. Mislabled emitted particle
     Reading ENDF file: ../e-090_Th_000.endf (Error # 0): ZAP messed up

     `WARNING: photon most likely labelled as an electron (ZAP = 11), converting to ZAP = 0`

  2. FIXME: Generic fudge unimplemented message
     reaction label 1: e- + Th + gamma [bremsstrahlung] / Product: e- (Error # 0): Generic unimp (c)

     `WARNING: Checking not yet implemented for energyLoss type data`

  3. FIXME: Generic fudge unimplemented message
     reaction label 2: e- + Th [excitation] / Product: e- (Error # 0): Generic unimp (c)

     `WARNING: Checking not yet implemented for energyLoss type data`

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     reaction label 0: e- + Th [large angle Coulomb scattering] / Cross section: (Error # 0): Threshold mismatch

     `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10. eV!`

  2. Calculated and tabulated thresholds don't agree
     reaction label 1: e- + Th + gamma [bremsstrahlung] / Cross section: (Error # 0): Threshold mismatch

     `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10. eV!`

  3. Calculated and tabulated thresholds don't agree
     reaction label 2: e- + Th [excitation] / Cross section: (Error # 0): Threshold mismatch

     `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10. eV!`

  4. Calculated and tabulated thresholds don't agree
     reaction label 3: e- + e- + Th1s1/2 / Cross section: (Error # 0): Threshold mismatch

     `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 110110. eV!`

  5. Calculated and tabulated thresholds don't agree
     reaction label 4: e- + e- + Th2s1/2 / Cross section: (Error # 0): Threshold mismatch

     `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 20478. eV!`

  6. Calculated and tabulated thresholds don't agree
     reaction label 5: e- + e- + Th2p1/2 / Cross section: (Error # 0): Threshold mismatch

     `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 19780. eV!`

  7. Calculated and tabulated thresholds don't agree
     reaction label 6: e- + e- + Th2p3/2 / Cross section: (Error # 0): Threshold mismatch

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WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 16315. eV!
```

8. Calculated and tabulated thresholds don't agree
   reaction label 7: e- + e- + Th3s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5157.9 eV!
```

9. Calculated and tabulated thresholds don't agree
   reaction label 8: e- + e- + Th3p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4831.6 eV!
```

10. Calculated and tabulated thresholds don't agree
    reaction label 9: e- + e- + Th3p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4036.2 eV!
```

11. Calculated and tabulated thresholds don't agree
    reaction label 10: e- + e- + Th3d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3502.4 eV!
```

12. Calculated and tabulated thresholds don't agree
    reaction label 11: e- + e- + Th3d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3338.6 eV!
```

13. Calculated and tabulated thresholds don't agree
    reaction label 12: e- + e- + Th4s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1310.6 eV!
```

14. Calculated and tabulated thresholds don't agree
    reaction label 13: e- + e- + Th4p1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1162.3 eV!
```

15. Calculated and tabulated thresholds don't agree
    reaction label 14: e- + e- + Th4p3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 956.16 eV!
```

16. Calculated and tabulated thresholds don't agree
    reaction label 15: e- + e- + Th4d3/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 714.8099999999999 eV!
```

17. Calculated and tabulated thresholds don't agree
    reaction label 16: e- + e- + Th4d5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 676.64 eV!
```

18. Calculated and tabulated thresholds don't agree
    reaction label 17: e- + e- + Th4f5/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 358.55 eV!
```

19. Calculated and tabulated thresholds don't agree
    reaction label 18: e- + e- + Th4f7/2 / Cross section: (Error # 0): Threshold mismatch

    `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 348.69 eV!`

20. Calculated and tabulated thresholds don't agree
    reaction label 19: e- + e- + Th5s1/2 / Cross section: (Error # 0): Threshold mismatch

    `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 294.76 eV!`

21. Calculated and tabulated thresholds don't agree
    reaction label 20: e- + e- + Th5p1/2 / Cross section: (Error # 0): Threshold mismatch

    `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 237.43 eV!`

22. Calculated and tabulated thresholds don't agree
    reaction label 21: e- + e- + Th5p3/2 / Cross section: (Error # 0): Threshold mismatch

    `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 189.41 eV!`

23. Calculated and tabulated thresholds don't agree
    reaction label 22: e- + e- + Th5d3/2 / Cross section: (Error # 0): Threshold mismatch

    `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 104.23 eV!`

24. Calculated and tabulated thresholds don't agree
    reaction label 23: e- + e- + Th5d5/2 / Cross section: (Error # 0): Threshold mismatch

    `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 97.11 eV!`

25. Calculated and tabulated thresholds don't agree
    reaction label 24: e- + e- + Th6s1/2 / Cross section: (Error # 0): Threshold mismatch

    `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 50.55 eV!`

26. Calculated and tabulated thresholds don't agree
    reaction label 25: e- + e- + Th6p1/2 / Cross section: (Error # 0): Threshold mismatch

    `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 33.52 eV!`

27. Calculated and tabulated thresholds don't agree
    reaction label 26: e- + e- + Th6p3/2 / Cross section: (Error # 0): Threshold mismatch

    `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 25.01 eV!`

28. Calculated and tabulated thresholds don't agree
    reaction label 27: e- + e- + Th6d3/2 / Cross section: (Error # 0): Threshold mismatch

    `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.62 eV!`

29. Calculated and tabulated thresholds don't agree
    reaction label 28: e- + e- + Th6d5/2 / Cross section: (Error # 0): Threshold mismatch

    `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.98 eV!`

30. Calculated and tabulated thresholds don't agree
reaction label 29: e- + e- + Th7s1/2 / Cross section: (Error # 0): Threshold mismatch

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 5.97 eV!
```

- `xsectplotter` Warnings:

    1. Mislabled emitted particle
    Error: ZAP messed up

    ```
    stderr while processing crossSection

        WARNING: photon most likely labelled as an electron (ZAP = 11), converting to ZAP = 0
    ... [4 more lines]
    ```